MYP Unit Planner

Unit Title	**Lucky or Not?**
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Subject and Grade Level	Extended mathematics Grade 9 — Year 9
Time frame and Duration	3 Weeks

Stage 1: Integrate significant concept, area of interaction and unit question, and ensure it can be assessed

AOI Focus	Significant Concepts
Human ingenuity: Students will create a game.	Luck can be evaluated.

MYP Unit Question
How can a process based on luck be predictably profitable?

Assessment

What task(s) will allow students the opportunity to respond to the unit question?

What will constitute acceptable evidence or understanding? How will students show what they have understood?

Task S **3BD probability** *(B, D)*

Students will create a basic and fun game of chance, within given parameters

Students will show that they have an understanding of chance and how it is calculated by constructing a for-profit game, which they will offer as a fund-raiser. Calculations submitted along with their game will be evidence of understanding.

Which specific MYP objectives will be addressed during this unit?

A: Knowledge and understanding

- use appropriate mathematical concepts and skills to solve problems in both familiar and unfamiliar situations, including those in real-life contexts
- select and apply general rules correctly to solve problems, including those in real-life contexts.
- know and demonstrate understanding of the concepts from the five branches of mathematics (number, algebra, geometry and trigonometry, statistics and probability, and discrete mathematics).

B: Investigating patterns

- select and apply appropriate inquiry and mathematical problem-solving techniques.
- recognize patterns.
- describe patterns as relationships or general rules.
- draw conclusions consistent with findings.
- justify or prove mathematical relationships and general rules.

C: Communication in mathematics

- use appropriate mathematical language (notation, symbols, terminology) in both oral and written explanations
- use different forms of mathematical representation (formulae, diagrams, tables, charts, graphs and models)

D: Reflection in mathematics

- explain whether their results make sense in the context of the problem.
- explain the importance of their findings.
- justify the degree of accuracy of their results where appropriate.
- suggest improvements to the method when necessary.

Which MYP assessment criteria will be used?

B: Investigating patterns
D: Reflection in mathematics

Stage 2: Backward planning: from the assessment to the learning activities through inquiry

Content

What knowledge and/or skills (from my course overview) are going to be used to enable the student to respond to the guiding question?

What (if any) Standard/skills are to be addressed?

Knowledge & Skills:

- Students will be able to use make sample spaces by listing, charts, or tree diagrams to calculate simple probability questions.

Approaches to Learning

How will this unit contribute to the overall development of subject-specific and general ATL skills?

- **Collaboration**:

working in groups - including delegating and taking responsibility, adapting to roles, resolving group conflicts, demonstrating teamwork
personal challenges - including respecting cultural differences, negotiating goals and limitations with peers and with teachers

- **Information literacy**:

accessing information — including researching from a variety of sources using a range of technologies, identifying primary and secondary sources
selecting and organizing information — including identifying points of view, bias and weaknesses, using primary and secondary sources, making connections between a variety of resources

- **Organization**:

Time Management
Self Management

- **Thinking**:

Inquiring — including questioning and challenging information and arguments, developing guiding questions, using the inquiry cycle
Applying knowledge and concepts — including logical progression of arguments
Identifying problems — including deductive reasoning, evaluating solutions to problems

Students will organize data and transfer their information and knowledge about sample spaces to calculate probability.

Learner Profile

Which characteristics of the learner profile will be emphasized? How will you make students aware of them?
• Thinkers: Students will investigate problems, in both theoretical and real-life contexts to find out if chances can be calculated or not.

International Mindedness

How will international-mindedness be addressed?
How do casinos run their business all over the world? Is it clever to gamble?

Learning Experiences

Teaching strategies

How will students know what is expected of them? Will they see examples, rubrics, templates, etc.?	How will we use formative assessments to give students feedback during the unit?
Students will have daily revision and have examples of chance investigations.	Formative assessments will be given to students to test their knowledge and skills in calculating probability.
How will students aquire the knowledge and practice the skills required? How will they practice applying these?	What different teaching methodologies will be employed?
Worksheets will be provided.	Using various kinds of games that related to probabilities.
Do the students have enough prior knowledge?	How are we differentiating teaching and learning for all? Have we considered those learning in the language other than their mother tongue? Have we considered those with special educational needs?
Students have prior knowledge about percentages and fractions.	Students with special educational needs will be referred to the ILN department.

Resources

What resources are available to us? How will our classroom environment, local environment and/or the community be used to facilitate students' experience during the unit?
Journal: Links Book -- Lucky or Not? New Trends textbook

Ongoing reflections and evaluations

In keeping an ongoing record, consider the following questions. There are further stimulus questions in the unit planning section of MYP: from principles into practice.
Students And Teachers • What did we find compelling? Were our disciplinary knowledge/skills challenged in any way? • What inquiries arose during the learning? What, if any, extension activities arose? • How did we reflect—both on the unit and on our own learning?

- Which attributes of the learner profile were encouraged through this unit? What opportunities were there for student-initiated action?

I think this unit went well. -DDS

Two things on the assessment: 1) the title must be on the front page; 2) US table should go from age 10 to age 30 and students should be given the information that in the US the driving age is 16, the age for the military is 18, and the drinking age is 21. They should be asked to compare and contrast the effects of those three activities on the death rate. -DDS

The new assessment was a little easy.

Possible Connections

- How successful was the collaboration with other teachers within my subject group and from other subject groups?
- What interdisciplinary understandings were or could be forged through collaboration with other subjects?

Assessment

- Were students able to demonstrate their learning?
- How did the assessment tasks allow students to demonstrate the learning objectives identified for this unit?
- How did I make sure students were invited to achieve at all levels of the criteria descriptors?
- Are we prepared for the next stage?

Data Collection

- How did we decide on the data to collect? Was it useful?